

# CLAIMS

## What is Claimed Is:

1           1.       A mechanism moving a slider toward a track on a rotating disk surface in a hard  
2 disk drive, to minimize track mis-registration, comprising:

3               means for moving said slider parallel to said rotating disk surface toward said track,  
4 when said rotating disk surface is flat, by moving said actuator arm by a lever action through a  
5 principal axis with said slider parallel said rotating disk surface and flexibly mounted by a  
6 flexure at a second bias angle to said actuator arm;

7               wherein a read-write head is encapsulated in said slider facing said rotating disk  
8 surface about a radial center in said hard disk drive;

9               wherein said read-write head is communicatively coupled with said rotating disk  
10 surface to communicatively access said track; and

11           means for radially moving said slider toward said track when said rotating disk surface is  
12 bent, by said flexure responding as said rotating disk surface is bent through said second bias  
13 angle causing said slider to radially move with respect to said track.

1           2.       The mechanism of Claim 1, wherein said flexure is mounted to said actuator arm  
2 at said second bias angle.

1           3.       The mechanism of Claim 2, wherein at least two welds mount said flexure to said  
2 actuator arm at said second bias angle.

1           4.       The mechanism of Claim 3, wherein at least two welds mount said flexure to a  
2 load beam coupled to said actuator arm at said second bias angle.

1           5.     The mechanism of Claim 1, wherein said slider mounts to said flexure at said  
2 second bias angle.

1           6.     The mechanism of Claim 1, wherein said second bias angle is between one-half  
2 degree and three degrees.

1           7.     The mechanism of Claim 6, wherein said second bias angle is between three-  
2 quarters degree and five-halves degrees.

1           8.     A head gimbal assembly aligned by said principal axis of Claim 1, comprising:  
2 said slider flexibly mounted by said flexure to said head gimbal assembly at said second bias  
3 angle.

1           9.     Said actuator arm of Claim 1, comprising: said slider flexibly mounted by said  
2 flexure at said second bias angle to said actuator arm.

1           10.    Said hard disk drive of Claim 1.

1           11.    A method of moving a slider toward a track on a rotating disk surface in a hard  
2 disk drive, to minimize track mis-registration, comprising the steps:

3           moving said slider parallel to said rotating disk surface toward said track, when said  
4 rotating disk surface is flat, by moving said actuator arm by a lever action through a principal  
5 axis with said slider parallel said rotating disk surface and flexibly mounted by a flexure at a  
6 second bias angle to said actuator arm;

7                   wherein a read-write head is encapsulated in said slider facing said rotating disk  
8 surface about a radial center in said hard disk drive;

9                wherein said read-write head is communicatively coupled with said rotating disk  
10                surface to communicatively access said track; and

11                radially moving said slider toward said track when said disk surface is bent, by said  
12                flexure responding as said rotating disk surface is bent through said second bias angle causing  
13                said slider to radially move with respect to said track.

1                12.     The method of Claim 11, wherein said flexure is mounted to said actuator arm at  
2                said second bias angle.

1                13.     The method of Claim 12, wherein at least two welds mount said flexure to said  
2                actuator arm at said second bias angle.

1                14.     The method of Claim 13, wherein at least two welds mount said flexure to a load  
2                beam coupled to said actuator arm at said second bias angle.

1                15.     The method of Claim 11, wherein said slider mounts to said flexure at said second  
2                bias angle.

1                16.     The method of Claim 11, wherein said second bias angle is between one-half  
2                degree and three degrees.

1                17.     The method of Claim 16, wherein said second bias angle is between three-  
2                quarters degree and five-halves degrees.